

## ABSTRACT OF THE DISCLOSURE

A low pass filter for removing a high harmonic wave of an local oscillation signal LO1 is provided between the first stage local oscillation circuit and a mixer circuit, and a cut-of frequency of the low pass filter changes in response to the frequency of the local oscillation signal LO1. In the conventional structure, for the interference of high harmonic wave represented by an output spurious, simply inserting a low pass filter is not sufficient, and it is also necessary to provide a bypass filter, or the structure for more surely connecting the sealed cap or the substrate to ground, etc. In contrast, according to the foregoing structure of the present invention, even when receiving low frequency, the high harmonic wave can be attenuated to a sufficient level without a band width restriction, and such structure required in the conventional structure for the interference of high harmonic wave can be omitted, and a cost reduction or improved degree of freedom in design choice can be achieved.